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Kaetlyn Blocker

Embry-Riddle Aeronautical University, blockerk@my.erau.edu

Javad Gorjidoz

Embry-Riddle Aeronautical University, gorji0cf@erau.edu

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Longitudinal Analysis of Perceived and Objective Airline Performance Quality

Kaetlyn Blocker and Javad Gorjidooz

Department of Safety Science and School of Business
Embry-Riddle Aeronautical University, Prescott Arizona

Air Transport Research Society World Conference

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Overview

- Introduction
- Methodology
 1. The Airline Quality Rating (AQR)
 - AQR Results
 2. The Airline Passenger Survey (APS)
 - APS Findings
- Conclusions/Wrap Up
- Presenter and Author Information



About the Research

Commercial air carrier performance is a multivariable function, uniquely and substantially impacted by passenger's perceptions of substandard customer service.

High industry visibility coupled with exponential social-media growth enabled the instantaneous and global dissemination of consequential information especially significant to the traveling public. These factors alone have delivered incredible potential to either widen or narrow this performance-perception gap.

This research explores the disparities between the performance-perception gap by analyzing the differences between objective performance findings and subjective passenger perceptions.



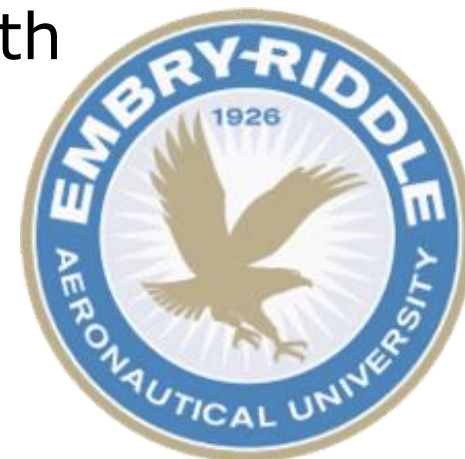


Methodology

The present research conducts a rare longitudinal evaluation of objective airline quality contrasting perceived airline performance, and the dynamic changes occurring therein.

- **Actual** airline quality, reported in 29 consecutive years of Airline Quality Rating reports, provides an objective and consistent baseline for comparatively analyzing longitudinal airline performance and decades of consumer complaint statistics.
- **Perceived** airline and industry performance, gathered through the annual Airline Passenger Survey, provides a unique opportunity for an in-depth analysis of subjective viewpoints of the average air traveler

Integrating objective AQR statistics with subjective APS results enables the creation of this longitudinal study, exemplifying the gaps between perception and reality.





Airline Quality Rating

- **AQR report-** Summary of month-by-month quality ratings for U.S. airlines
 - Airline's included are those required to report performance by virtue of having at least 1% of domestic scheduled-service passenger revenue during 2018.
- **Developed/announced in 1991-** first effective and objective method for assessing airline quality
 - Utilizes a multi-factor, weighted average approach, results in ranking system with interval scale properties, comparable across airlines and across time periods.
 - Four performance areas assessed: on-time arrivals, involuntary denied boardings, mishandled baggage, 12 consumer complaint categories
 - Data utilized is published and publicly available, extracted from Dept. of Transportation's monthly *Air Travel Consumer Report*

The Airline Quality Rating (AQR) is the premier statistical study of major airline performance in the United States, objectively comparing airline quality.

AQR Criteria, Weights and Impacts

Criteria		Weight	Impact
OT	On-Time	8.63	+ Positive
DB	Denied Boardings	8.03	- Negative
MB	Mishandled Baggage	7.92	- Negative
CC	Consumer Complaints	7.17	- Negative
<ul style="list-style-type: none">• 12 Consumer Complaint Categories: Flight Problems; Over sales; Reservations, Ticketing, and Boarding; Fares; Refunds; Baggage; Customer Service; Disability; Advertising; Discrimination; Animals; Other;			

Formula used in calculating AQR Scores:

$$\text{AQR} = \frac{(+8.63 \times \text{OT}) + (-8.03 \times \text{DB}) + (-7.92 \times \text{MB}) + (-7.17 \times \text{CC})}{(8.63 + 8.03 + 7.92 + 7.17)}$$



2019 AQR Overall



#1  **DELTA** 
AIR LINES

#2 **jetBlue**
AIRWAYS®

#3 **Southwest** 

#4 **Alaska** 
AIR LINES

#5 **HAWAIIAN** 
AIR LINES.

#6 **UNITED** 
AIR LINES

#7 **spirit**™
LESS MONEY. MORE GO.

#8 **American** 
Airlines

#9 **FRONTIER**
AIR LINES



2019 AQR Results

29th Annual AQR Scores

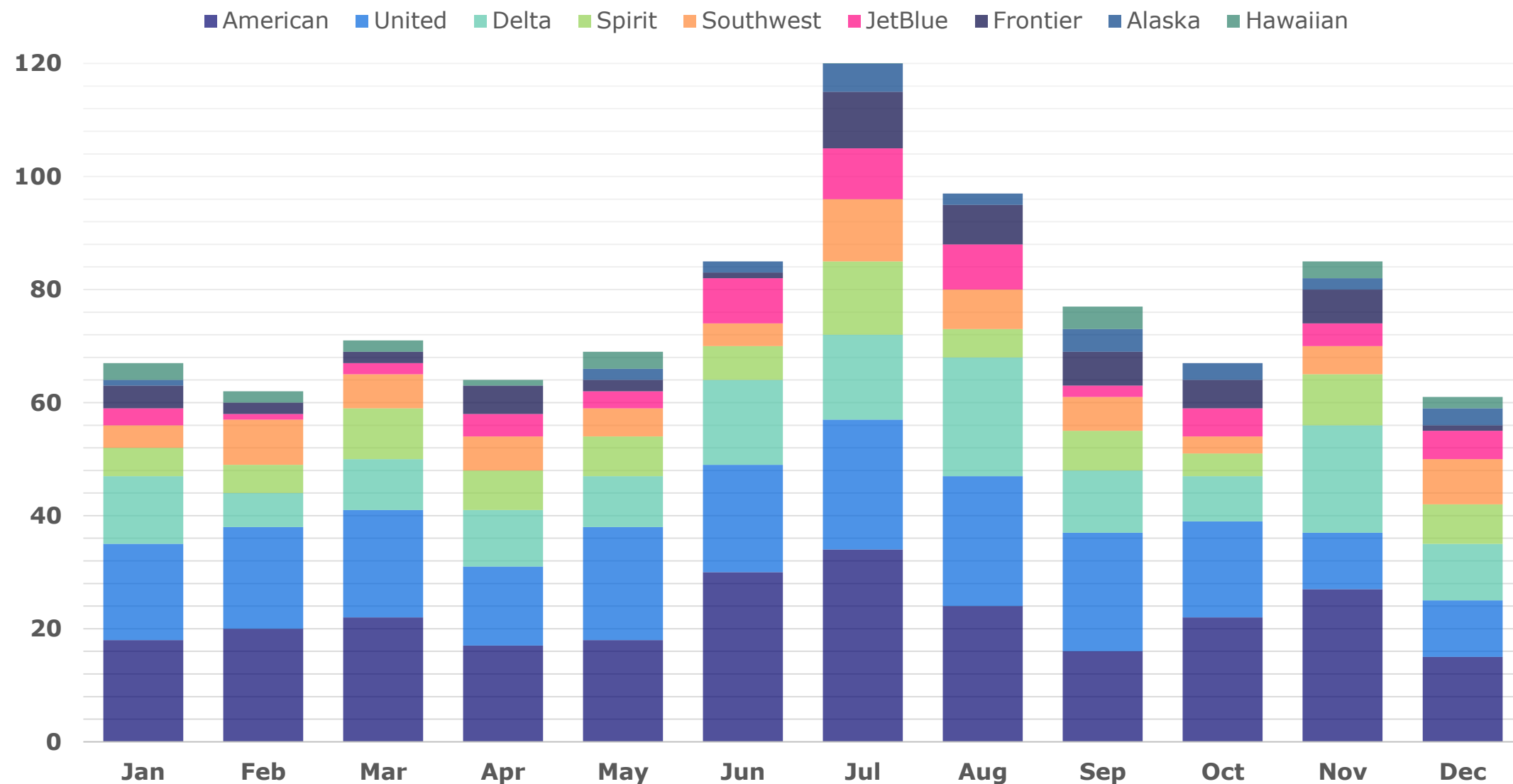
Ranking	Airline	Score
1 st	Delta Air Lines	-0.36 ↑
2 nd	JetBlue Airlines	-0.48 ↑
3 rd	Southwest Airlines	-0.62 ↑
4 th	Alaska Airlines	-0.63 ↓
5 th	Hawaiian Airlines	-0.65 ↑
6 th	United Airlines	-0.72 ↑
7 th	Spirit Airlines	-1.00 ↑
8 th	American Airlines	-1.10 ↓
9 th	Frontier Airlines	-1.53 ↓
-----	Industry	-0.66 ↑



2018 Complaints: Customer Service

Data contained in the graph below was extracted from the monthly U.S. Department of Transportation's Air Travel Consumer Reports for the 2018 calendar year. Numerical values represent the total number of *customer service* specific complaints, as reported to the D.O.T., per airline and per month.

2018 CUSTOMER SERVICE COMPLAINTS





Airline Passenger Survey

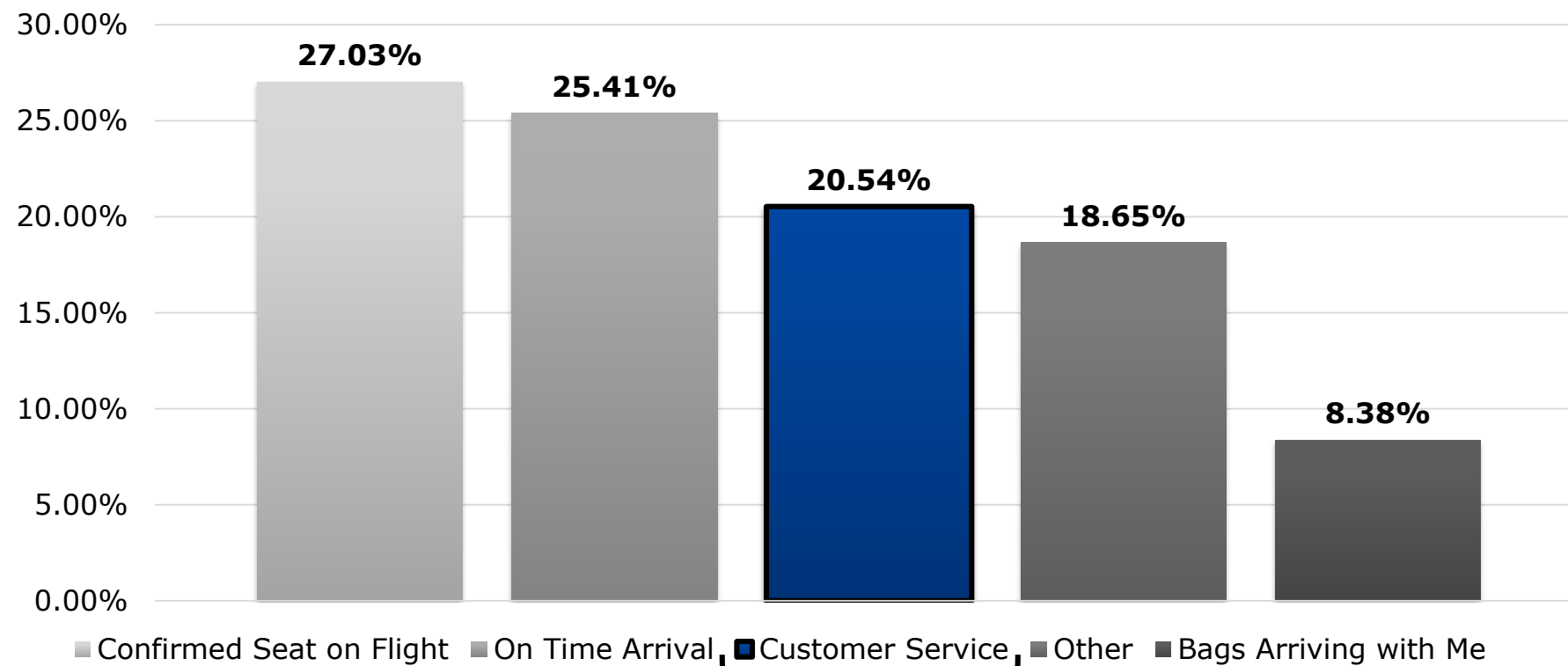
- **Established in 2009-** Created at the request of U.S. Congressional Subcommittee
 - Addressed questions raised by *Airline Passenger Bill of Rights* Sponsor, Congressman Lee Terry
- Today, APS is utilized for collegiate research and providing a continuous longitudinal data set of passenger perceptions
- **Survey includes 15 airline related questions**
 - Combination of demographic variables, categorical data and Likert-type scale responses
- APS data utilized in this research offers insights into consumer opinions of airline quality and performance and provides a subjective baseline to contrast the objective AQR results



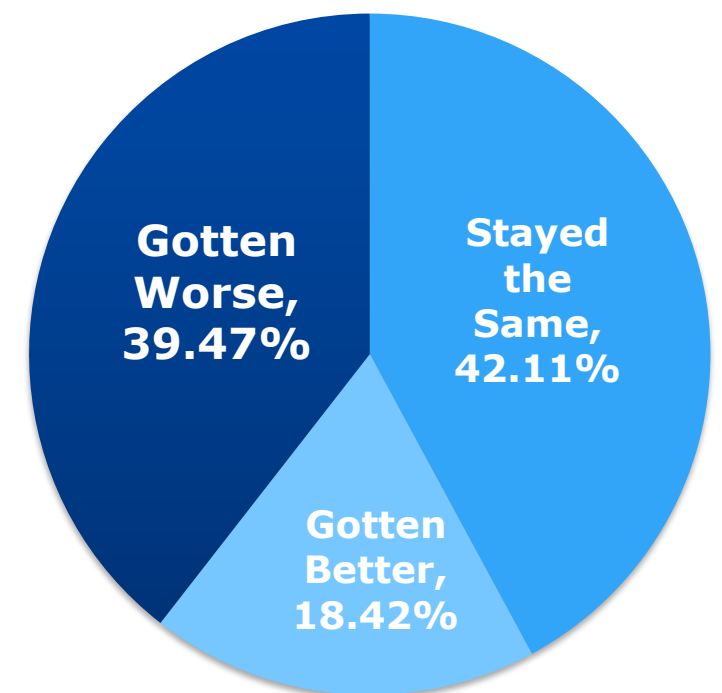


Airline Passenger Survey Question:

"When thinking of your next air travel opportunity, which of the following do you consider as MOST important in making your airline selection?"



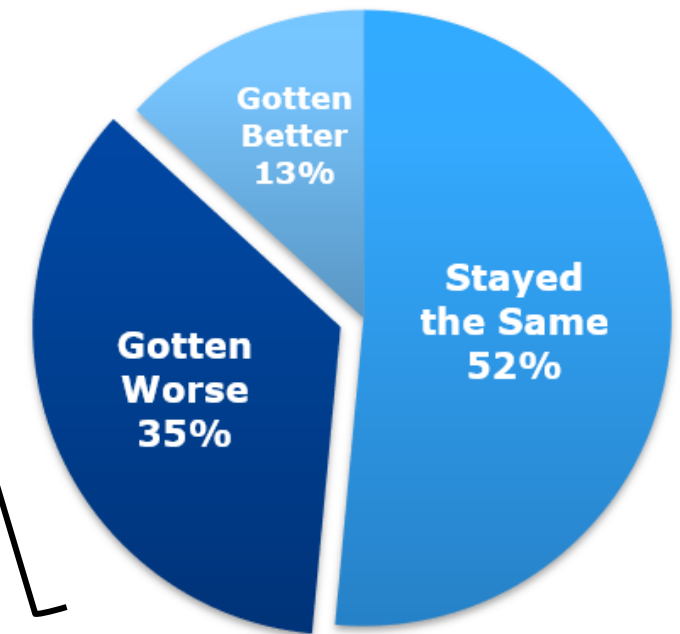
"In general, how has air travel been for you over the last 1 year?"



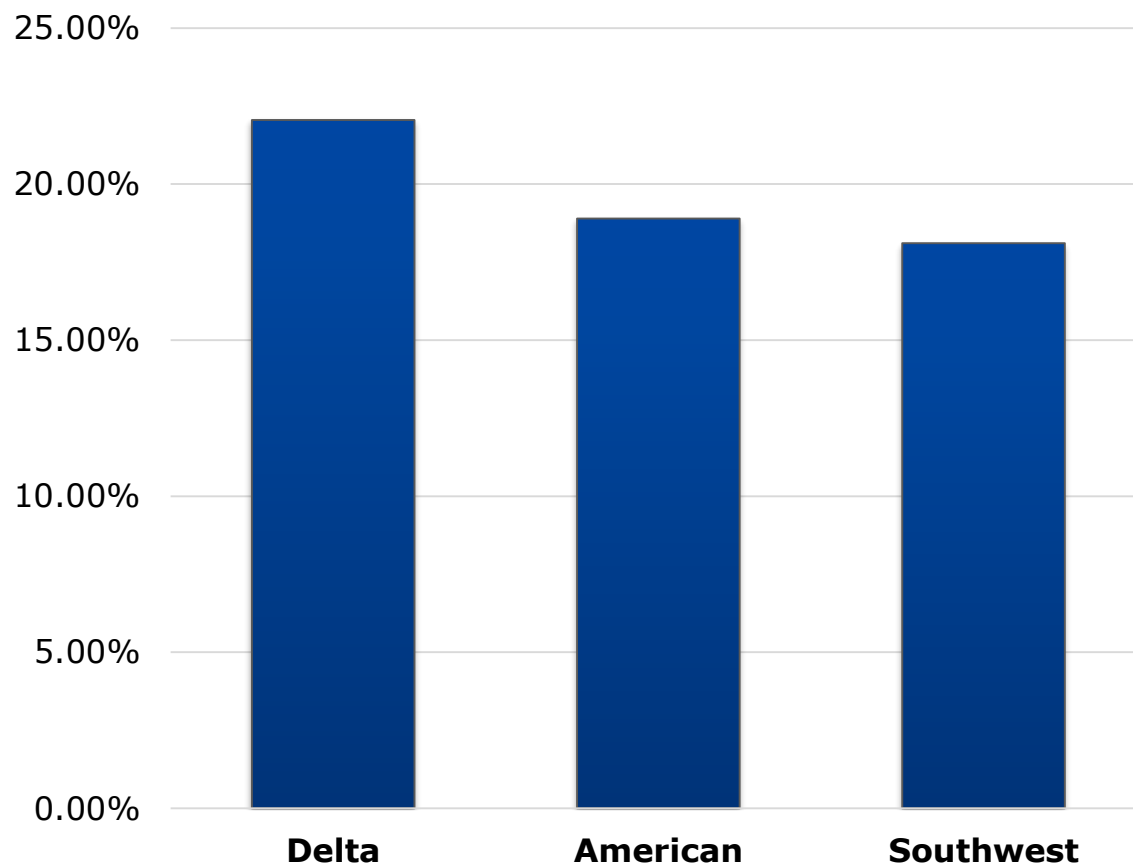


Airline Passenger Survey Question:

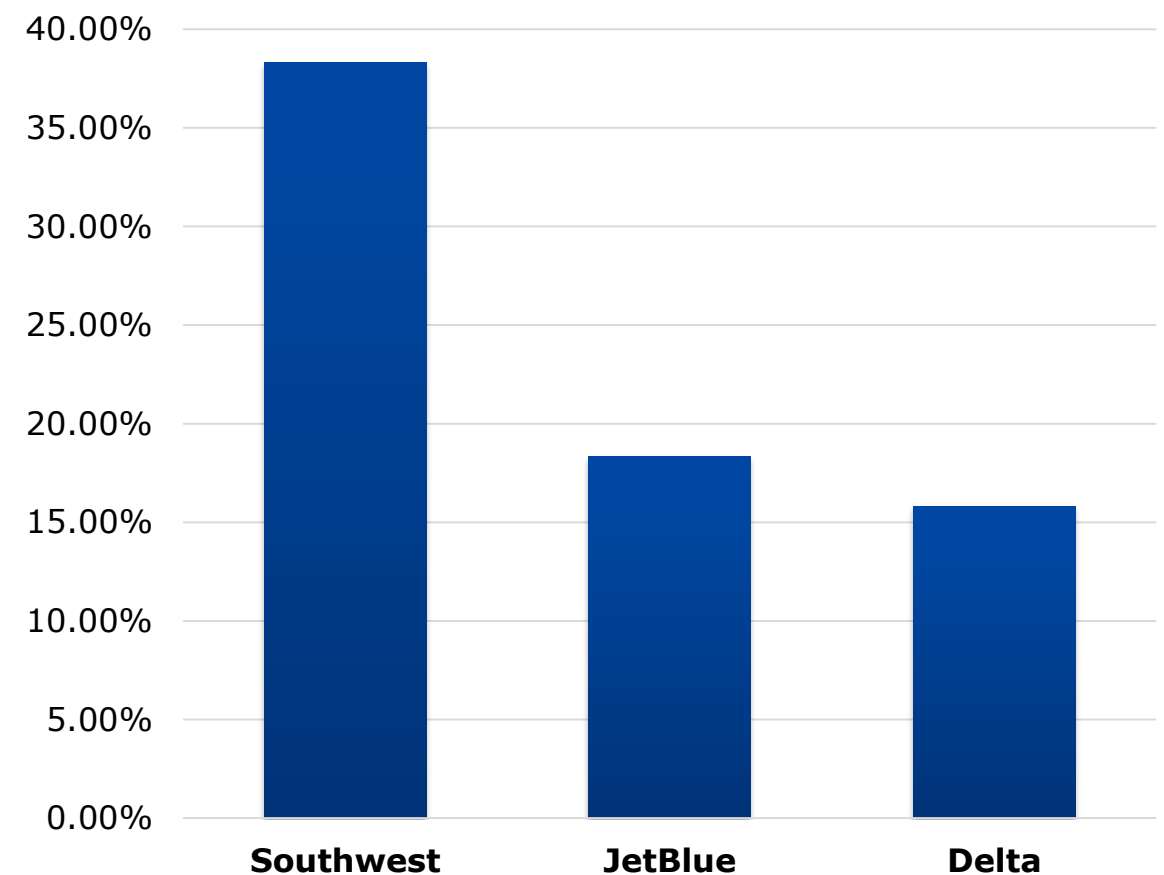
"In general, how has air travel been for you over the last 1 year?"



Top 3 "Preferred Airlines" by Passengers Who Believe Air Travel has Gotten Worse



Top 3 "Friendliest Airlines" by Passengers Who Believe Air Travel has Gotten Worse

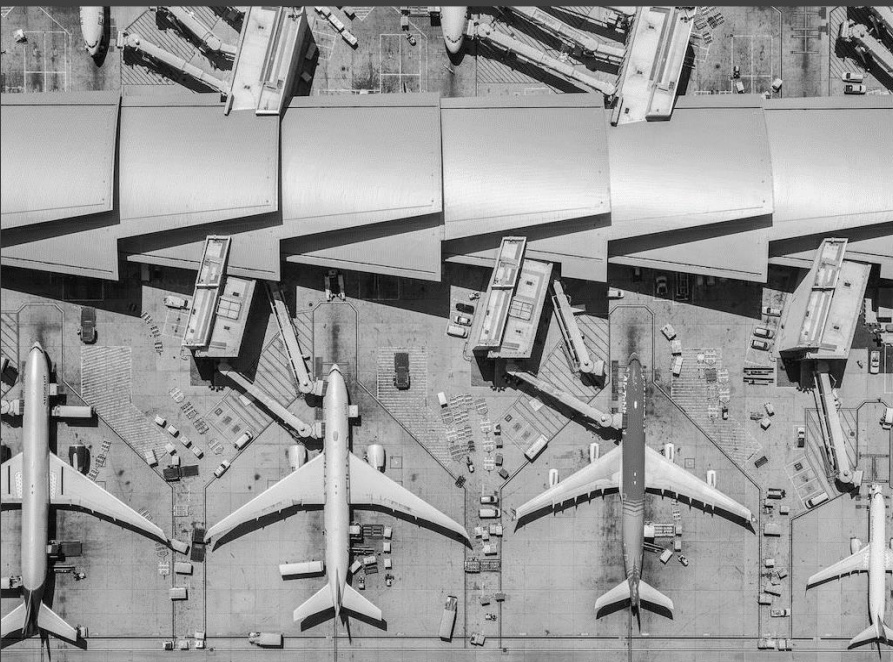


Flight	Code	Destination	Estimated	Estimated	Status
JQ657	QF259	MELBOURNE	15:55		
IE700	QF380	HONOLULU	16:00		
QF058	PX3005	PORT MORESBY	16:00	15:37	Early
QF128	A33-16	AUCKLAND	16:15	16:25	Estimated
NZ765		NORFOLK ISLAND	16:20		
NZ739	TK8731	AUCKLAND	16:35	16:44	Estimated
SQ285		SINGAPORE	16:55	15:54	Estimated
VA038		PORT MORESBY	17:05		
VA052	SQ8374	HONOLULU	17:05	16:53	Estimated
VA105		WELLINGTON	17:05	17:07	Estimated
EY484	NZ7521	ABU DHABI	17:35	16:55	Estimated
VA176	KL1389	NADI	17:55		

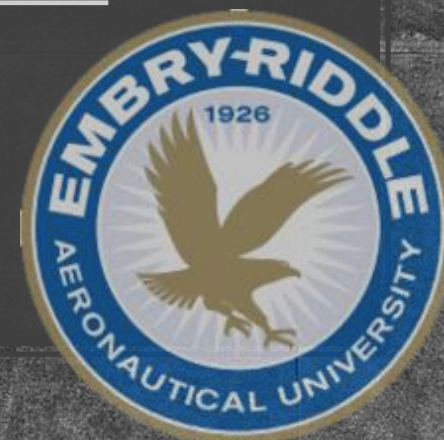
DO NOT LEAVE YOUR BAGS OR PERSONAL BELONGINGS UNATTENDED. UNATTENDED BAGS AND PERSONAL BELONGINGS WILL BE DESTROYED.

Tuesday, November 07 20:19:57 PM

International Arrivals



Results





Key Take-Aways

- **While airline performance quality continues the four-year improvement trend into 2019, the Airline Passenger Survey indicates that a staggering 87% of consumers believe air travel generally has stayed the same or gotten worse over the past year**
- Disparity between what consumers indicated as their most "preferred" airlines versus the airlines they viewed as the "friendliest"
- With the exception of a few outliers, APS results indicated that respondents most frequently selected one of the top 3 performing airlines as either the "friendliest" or most preferred airline
- While counterproductive employee behavior and substandard customer service has the potential to severely impact an airline's image, consumers consistently indicate that they most value on-time arrivals or a confirmed seat on the plane (not experiencing a denied boarding)
 - Customer Service consistently falls in third place behind Confirmed Seat's and On-Time Arrivals

Contact Information

Kaetlyn Blocker

 Graduate Research Assistant

 Blockerk@my.erau.edu

 Prescott, Arizona, USA

Dr. Javad Gorjidooz

 Professor of Finance

 Gorji0cf@erau.edu

 Prescott, Arizona, USA

EMBRY-RIDDLE
Aeronautical University™
PRESCOTT, ARIZONA



**Brent D. Bowen, Erin E. Bowen, Javad Gorjidooz,
Timothy B. Holt, Kaetlyn E. Blocker**

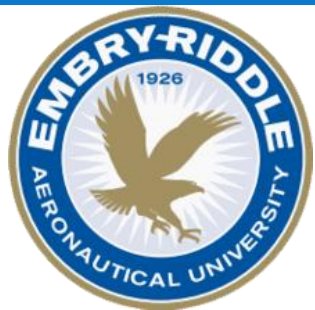
Embry-Riddle Aeronautical University
Prescott, Arizona, United States

College of Aviation

Department of Safety Science and Department of Applied Aviation Sciences

College of Arts and Sciences

Department of Behavioral and Social Sciences and the School of Business



Visit the AQR Website



If you are interested in learning more about the Airline Quality Rating 2019, view the AQR Report Card, or would like to view any of the past 29 annual reports, visit the following link...

<https://airlinequalityrating.com/>



2019 AQR Rankings by Category

Airline	On-Time Arrivals (percentages)	Denied Boardings (per 10,000 passengers)	Mishandled Baggage (per 1,000 passengers)	Consumer Complaints (per 100,000 passengers)
Alaska Airlines	0.818	0.23	2.67	0.57
American Airlines	0.784	0.20	3.83 (9 th)	1.38
Delta Air Lines	0.857	0.00 (1 st)	1.80	0.65
Frontier Airlines	0.694 (9 th)	0.63 (9 th)	2.60	4.02 (9 th)
Hawaiian Airlines	0.893 (1 st)	0.01	2.59	1.10
JetBlue Airways	0.710	0.01	1.79	0.99
Southwest Airlines	0.792	0.15	2.89	0.36 (1 st)
Spirit Airlines	0.811	0.56	1.76 (1 st)	2.83
United Airlines	0.779	0.01	2.56	1.28
Industry	0.796	0.14	2.43	1.04



APS Survey Questions

Q1. How has air travel in general been for you in the past year?

Q2. When thinking of your next air travel opportunity, which of the following do you consider as MOST important in making your airline selection?

Q3. What is your most preferred airline to fly

Q4. Thinking about your flights in the past year, please indicate all the types of additional airline fees that you have paid (check all that apply).

Q5. Thinking of your flights in the past year, when you learned of an unexpected additional airline fee during a ticket purchase, what was your reaction (please check all that apply):

Q6. Thinking about your flights in the past year, please rate your level of satisfaction with the airlines' disclosure of additional a la carte (e.g., baggage, seat selection, and similar) fees during your ticket and travel experience:



APS Survey Questions

Q7. Which airline do you think is most passenger friendly?

Q8. In the past year, who was financially responsible (paid for) your air travel?

Q9. Your average number of flights each year is:

Q10. The majority of your flights each year are for:

Q11. Your gender is:

Q12. How has your confidence in United States Airlines' safety changed over the past 1 year?

Q13. An airline's safety history affects my ticket purchasing decision?

Q14. Please rate your level of confidence in the Airline Quality Rating (AQR) as an accurate indicator of U.S. airline performance.

Q15. OPTIONAL: Have you experienced any travel issues, concerns or complaints? Please briefly describe them below: